

APPENDIX A: MEASURED E-FIELD STRENGTHS OF THE 1998 AND 2001 SPECTRUM SURVEY

In this appendix the measured data for the spectrum survey performed at both the Table Mountain NRQZ and the DOC Laboratories are presented. The data in each graph were acquired with a measurement system as described in Section 2. Figures A.1 through A.34 are the measured E-field strengths for a vertically polarized receiving antenna. These data are for the 1998 spectrum survey. Figures A.1 through A.17 are the measured E-field strengths at the Table Mountain NRQZ for the frequency range of 30 MHz to 960 MHz. Figures A.18 through A.34 are the measured E-field strengths on the groundscreen at the DOC Laboratories for the frequency range of 30 MHz to 960 MHz.

Figures A.35 through A.43 are the measured E-field strengths for a horizontally polarized receiving antenna. These data are for the 2001 spectrum survey. Figures A.35 through A.37 are the measured E-field strengths at the Table Mountain NRQZ, at the NIST groundscreen, and at the end of Wing 4 of Building 1 at the DOC Laboratories for the frequency range of 50 MHz to 90 MHz. Figures A.38 through A.40 are the measured E-field strengths at the Table Mountain NRQZ, at the NIST groundscreen, and at the end of Wing 4 on Building 1 at the DOC Laboratories for the frequency range of 170 MHz to 220 MHz. Figures A.41 through A.43 are the measured E-field strengths at the Table Mountain NRQZ, at the NIST groundscreen, and at the end of Wing 4 of Building 1 at the DOC Laboratories for the frequency range of 500 MHz to 800 MHz.

The upper curve shows the highest level in each bin from any of the sweeps, the lower curve shows the lowest level in each bin from any of the sweeps, and the middle curve shows the average level in each bin for the entire set of sweeps. The data graphs may be interpreted as follows: the maximum curve on each graph shows the absolute envelope of received signal levels for the period of the spectrum survey. The minimum curve on each graph shows the absolute minimum level observed on each frequency for the period of the survey, and the middle curve shows the average level (in decibels) at each frequency for the period of the survey. Generally, the variation between the sets of curves in each 2001 data graph is less than for the 1998 survey results because the measurements were made over shorter intervals (a few hours at each location).

In cases in which only noise was measured, the three curves are spaced about 10 dB apart, and the average (middle) curve is at the measurement system's inherent noise level. If signals were sporadically present on a frequency, then the average curve may be close to the measurement system's inherent noise level, but the maximum and minimum curves will be somewhat elevated. The closer the average curve is to the maximum curve, the larger the percentage of time that the signal was present. If all three curves are elevated above the measurement system's inherent noise threshold, then the signal was present in all measurement scans. The closer the curves are together, the more constant the measured signal level. The more the curves are spread apart, the more variation occurred in the measured signal level. The average curve's proximity to the maximum or minimum curves indicates whether the signal was present in a large percentage of scans or a low

percentage of scans, respectively. The absolute percentages of time that signals were present are not available in these data graphs.

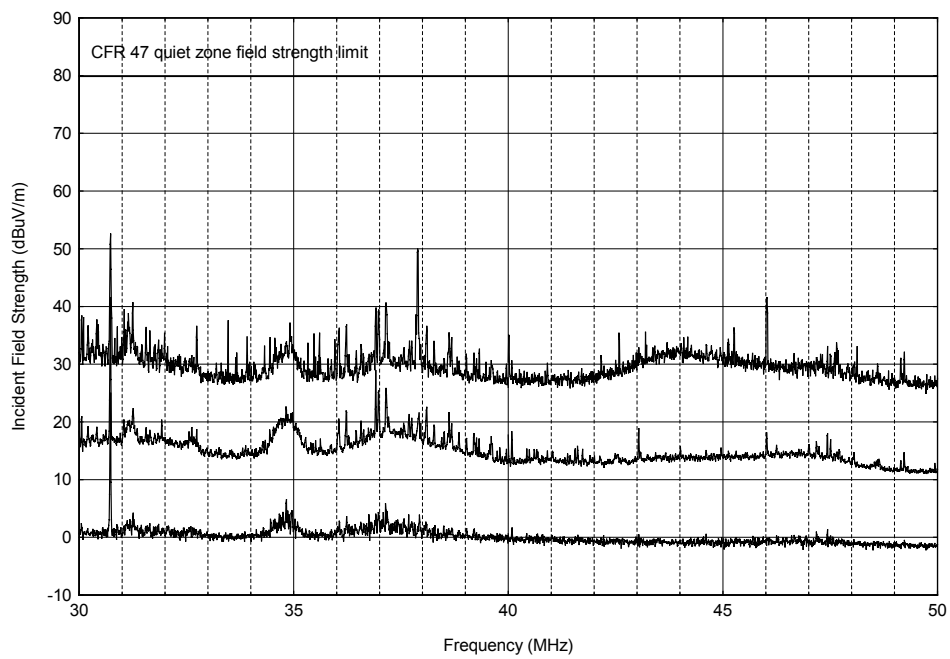


Figure A.1. Table Mountain NRQZ, 30-50 MHz, 10 kHz IF bandwidth, 6,300 sweeps, vertical polarization.

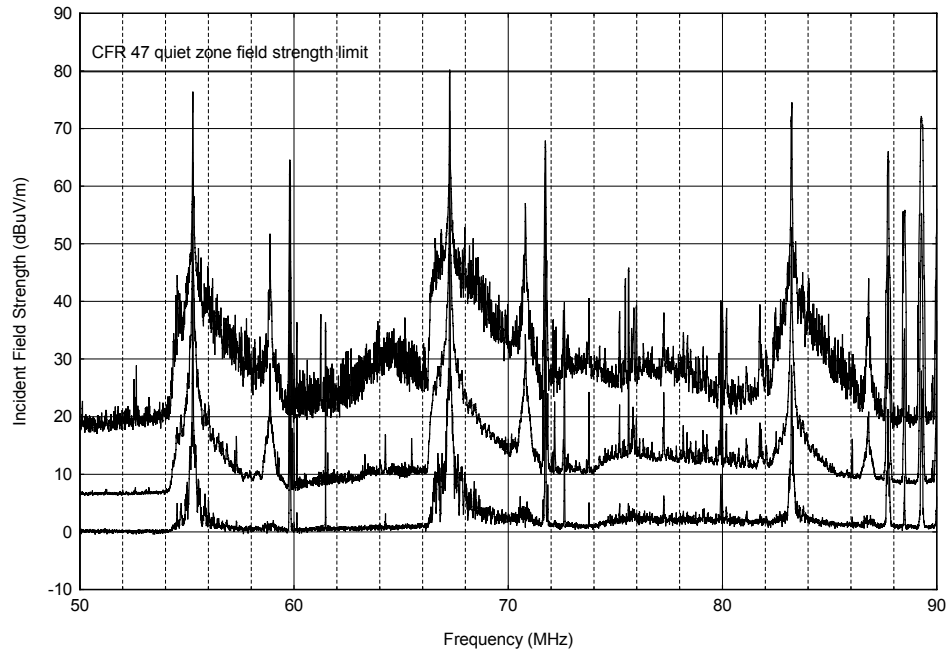


Figure A.2. Table Mountain NRQZ, 50-90 MHz, 10 kHz IF bandwidth, 1,890 sweeps, vertical polarization.

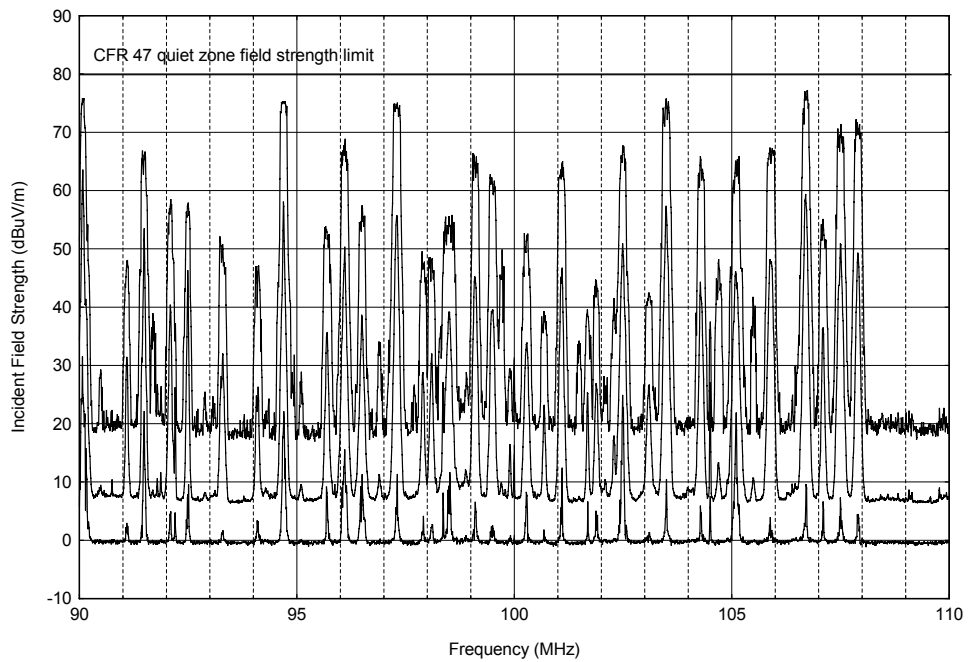


Figure A.3. Table Mountain NRQZ, 90-110 MHz, 10 kHz IF bandwidth, 1,890 sweeps, vertical polarization.

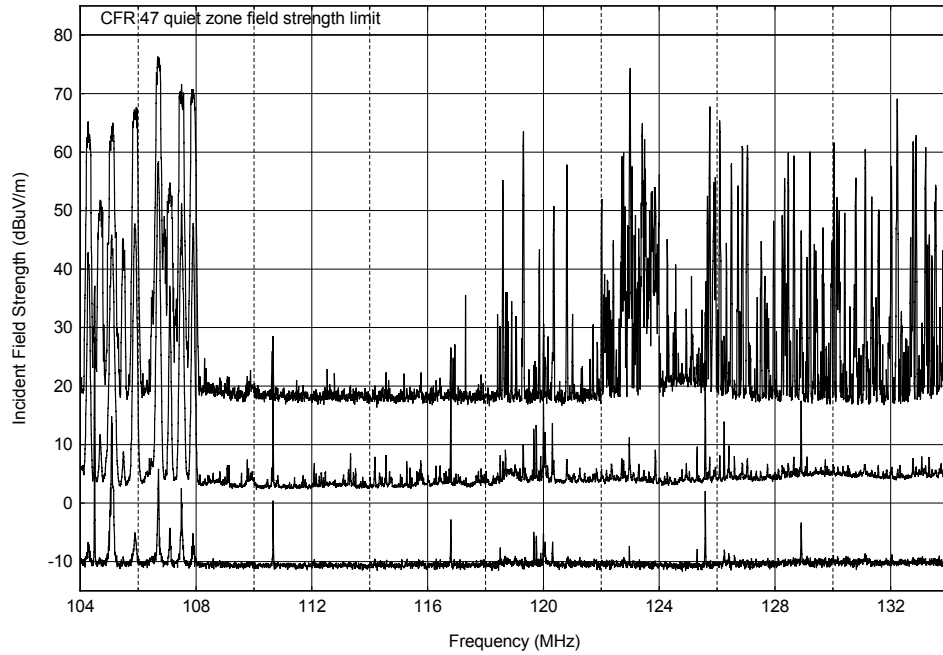


Figure A.4. Table Mountain NRQZ, 104-134 MHz, 12,400 sweeps, vertical polarization.

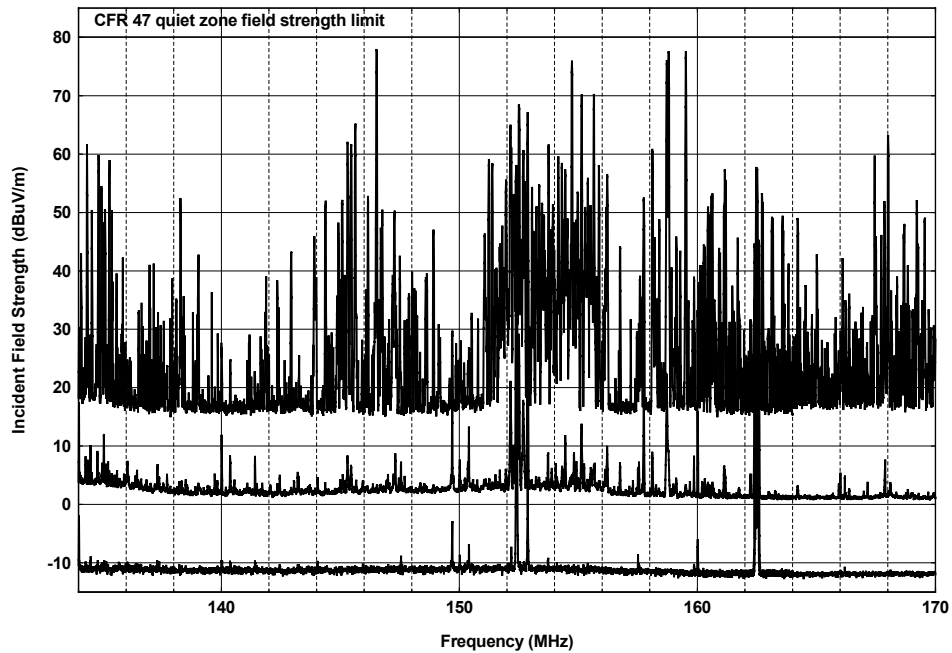


Figure A.5. Table Mountain NRQZ, 134-170 MHz, 10 kHz IF bandwidth, 12,400 sweeps, vertical polarization.

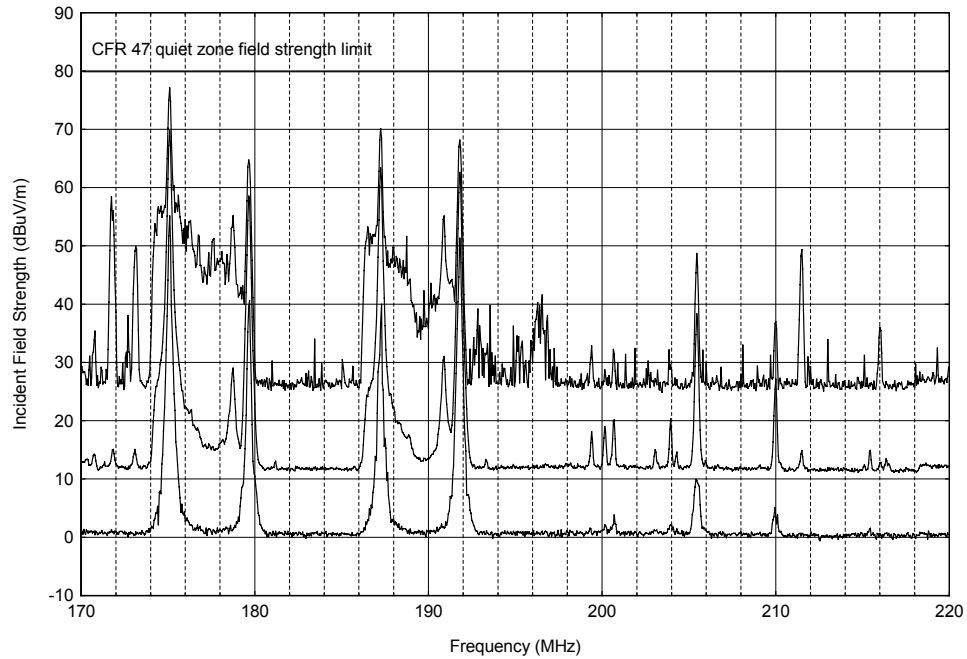


Figure A.6. Table Mountain NRQZ, 170-220 MHz, 100 kHz IF bandwidth, 31,500 sweeps, vertical polarization.

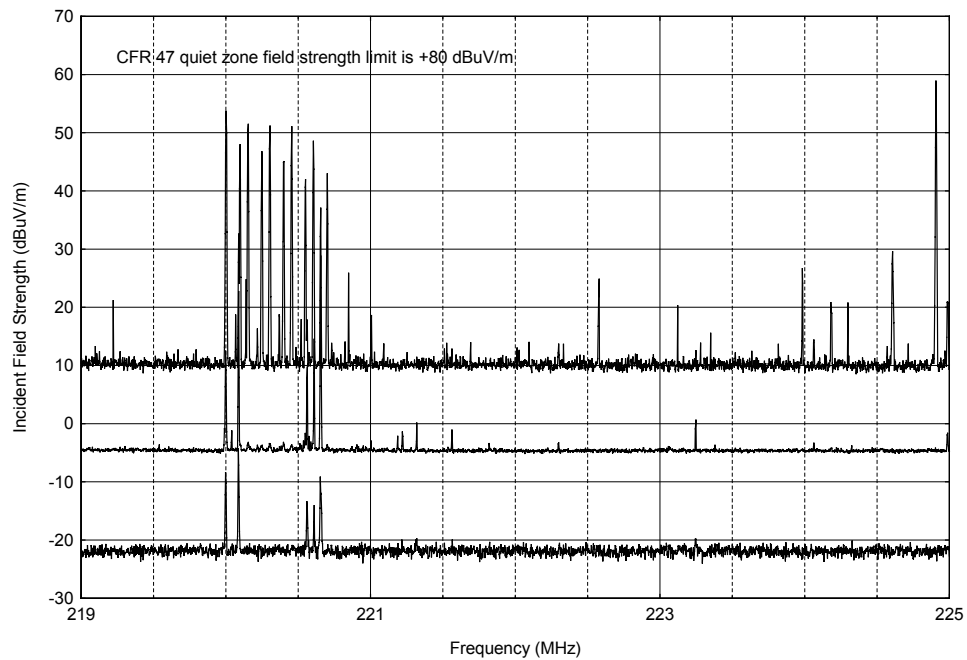


Figure A.7. Table Mountain NRQZ, 219-225 MHz, 3 kHz IF bandwidth, 7,380 sweeps, vertical polarization.

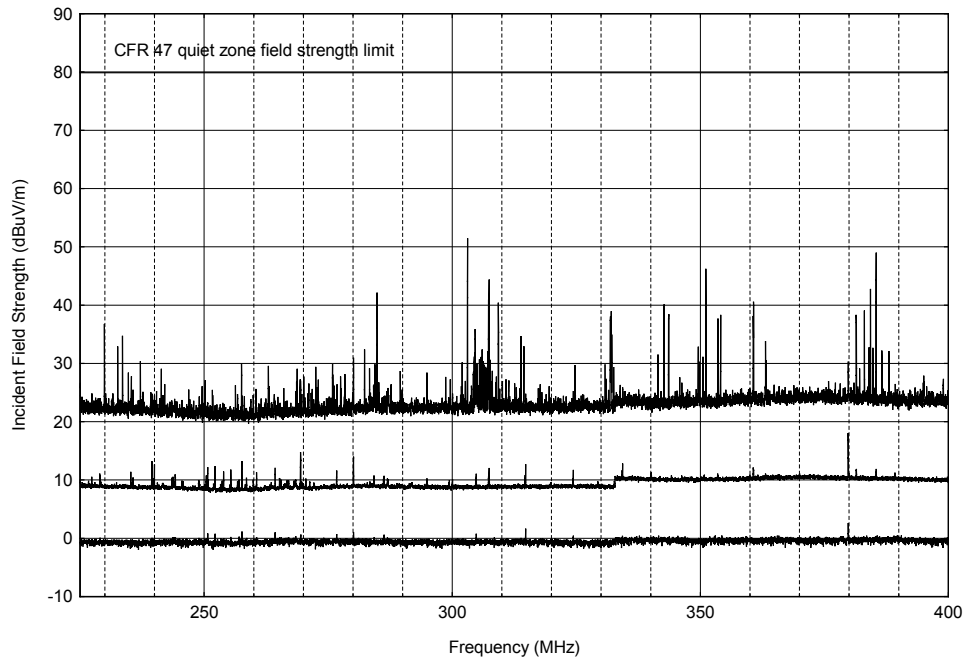


Figure A.8. Table Mountain NRQZ, 225-400 MHz, 30 kHz IF bandwidth, 5,800 sweeps, vertical polarization.

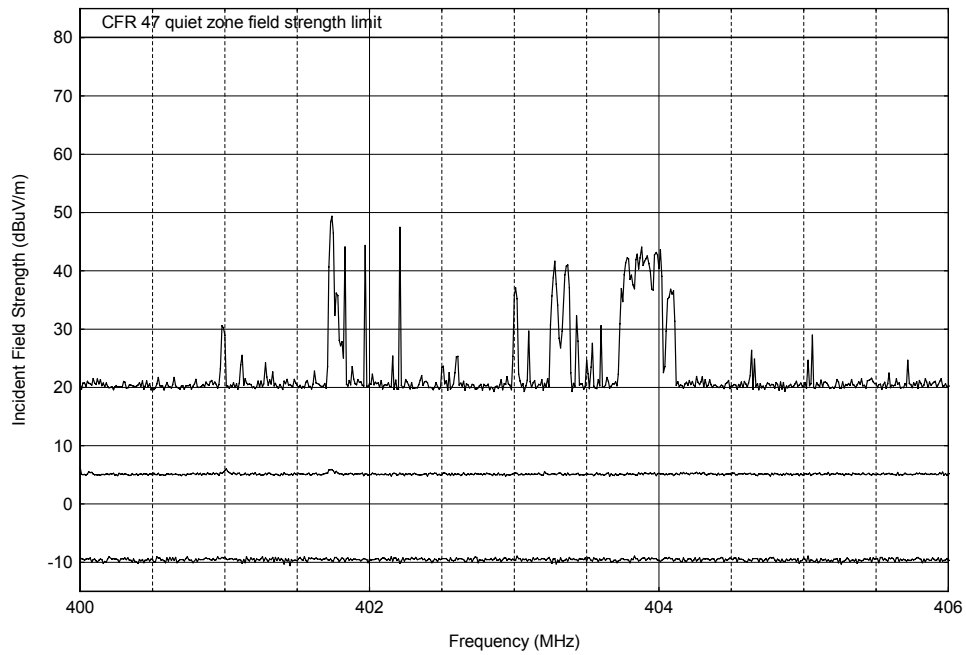


Figure A.9. Table Mountain NRQZ, 400-406 MHz, 10 kHz IF bandwidth, 36,600 sweeps, vertical polarization.

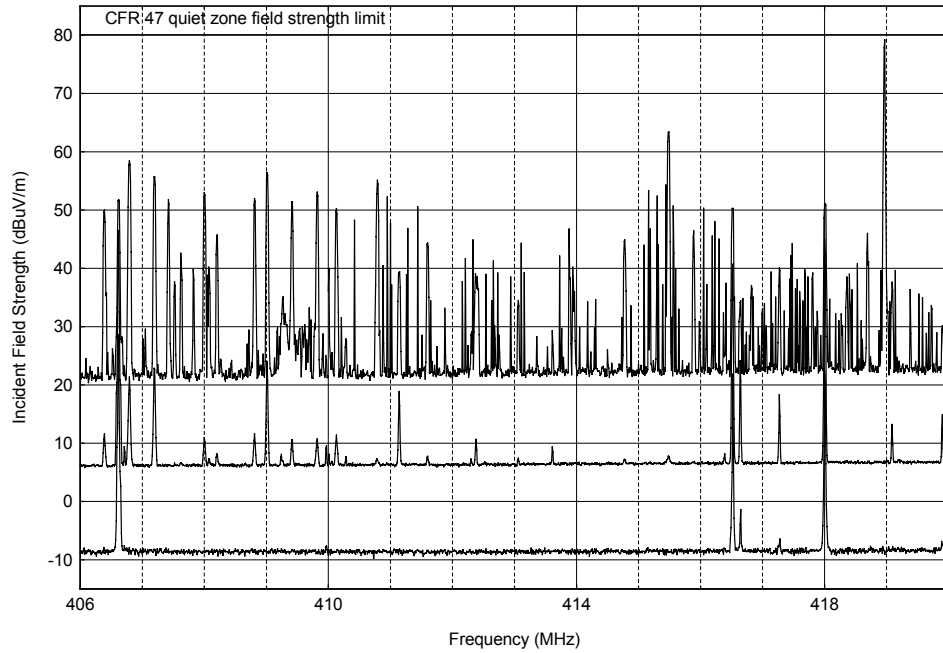


Figure A.10. Table Mountain NRQZ, 406-420 MHz, 10 kHz IF bandwidth, 36,400 sweeps, vertical polarization.

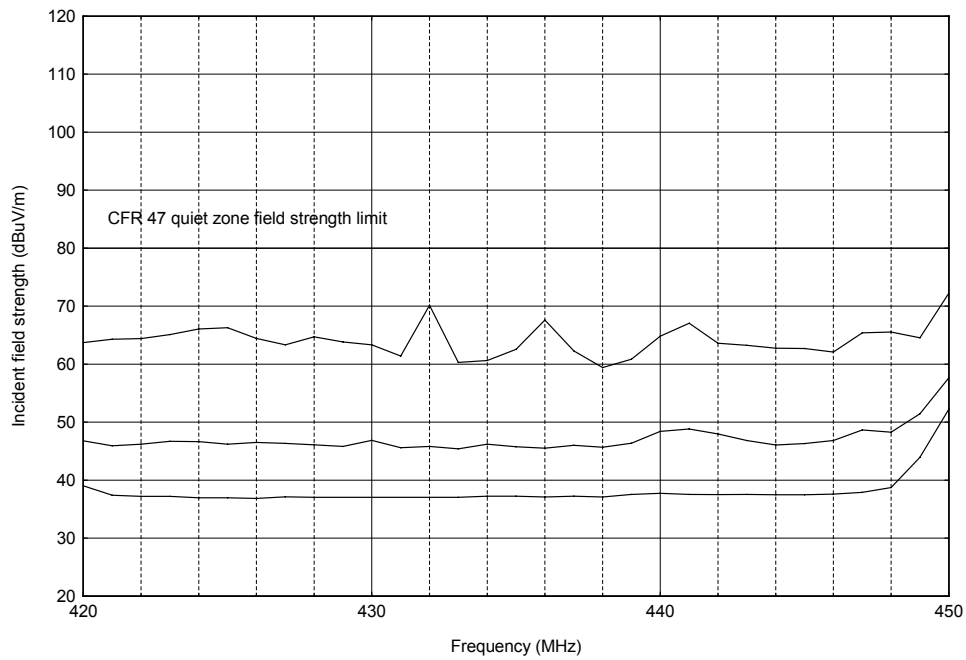


Figure A.11. Table Mountain NRQZ, 420-450 MHz, 1 MHz IF bandwidth, 120 passes through band (stepped), vertical polarization.